Fact Sheet

Glossary of Terms and Background Information Related to Missouri River Operations

Mainstem Reservoir System:

The portion of the Missouri River from the headwaters of Fort Peck Lake, Montana to Gavins Point Dam, South Dakota including the six large dams and their lakes.

Navigation Season: Period of time that flow support is provided to serve navigation on the Lower Missouri River from Sioux City, Iowa to St. Louis, Missouri. The length of a normal navigation season is 8 months at St. Louis (April 1 through December 1).

Navigation Target: Specific flow criteria at Sioux City, Omaha, Nebraska City and Kansas City, necessary to support barge traffic.

Navigation Service: The release of water from the Mainsteam Reservoir System necessary to maintain 8 to 9 feet of water depth in the navigation channel between Sioux City and St. Louis. May range from Full Service to Minimum Service according to water supply/river conditions.

Flow Scenarios:

Flow-to-Target:

Under the Corps' flow-to-target plan, water releases from Gavins Point Dam, South Dakota, would be gradually increased throughout the tern and plover nesting season (May 15 to Aug 15) to meet water levels necessary to support barge traffic as the tributaries that enter the Missouri River below Gavins Point Dam dry up. The Service believes increased water flow would threaten tern and plover nests, eggs, and chicks. The Corps has proposed removing eggs and chicks to their captive rearing facility. The Service, the Corps, and State Game and Fish Departments within the Missouri River Basin previously agreed that the captive rearing facility would be used for emergency flood purposes only. The Service will review the request to relocate birds and make recommendations based on the long-term conservation needs of the species.

During normal water years, inflows from the lower tributaries provide enough water to maintain barge traffic on the lower Missouri River between Sioux City, Iowa and St. Louis, Missouri. Since the majority of these tributaries are located downstream from the area where terns and plovers nest, the inflows would not threaten nests, chicks, and eggs.

Steady Release:

Under the Corps' steady-release plan, flows from Gavins Point Dam would be increased in mid-May prior to the arrival of terns and plovers and held steady until mid-August at the level projected by the Corps as necessary to support navigation during the lowest flow months (i.e., August and September) when tributary inflow to the river declines. These flows would inundate potential nesting sandbar habitat and prevent terns and plovers from establishing nests. For the 2003 season, this flow would be approximately 30,000 cfs.

Flow Recommendations in the Service's 2000 Biological Opinion:

The Service's flow recommendations, as provided in the 2000 biological opinion, call for a modest spring rise on an average of once every three years except during flood or drought conditions. According to the 2000 Biological Opinion recommendations, spring releases

would be stepped down and held steady until September 1, when releases would be increased back to full navigation service. The spring rise would provide spawning cues for native fish and sustain sandbar habitat for terns and plovers. Declining summer flows would keep tern and plover nests above water and prevent hatchlings from being washed downstream. It would also provide and improve shallow, slow water habit to allow young fish to rest, feed, and grow until they are capable of negotiating main channel currents.

Summer of 2002 flows:

In 2002, the Corps operated under a flow-to-target scenario, but did not increase mid-summer flows above 25,500 cfs. This operation maintained available sandbar habitat, kept nests above water and allowed terns and plovers to successfully nest and rear their young.

Drought Conservation:

Reduction of releases from the Mainstem Reservoir System to conserve water in the upper basin lakes and reservoirs for authorized project purposes.

Terns and Plovers:

Fledge Ratio Goal:

A fledge ratio (flighted chicks per adult pair) is meant to be used as an interim measurement tool. It represents the number of birds that must be fledged to maintain the species population at status quo. It does not represent the long-term recovery goals.

Population Status and Recovery Goals for Piping Plover and Least Tern:

Northern Great Plains Population of Piping Plover:

Recovery Goal: 2,300 breeding pairs. Population must be stable, self-sustaining, and geographically well-distributed

Current Status: The Northern Great Plains population of piping plover continues to decline despite some localized gains. The 2001 International Piping Plover Census indicates that in the last 10 years, the population has experience a 2.5% decline in the U.S. Northern Great Plains and a 32.4% decline in Prairie Canada.

Interior Least Tern:

Recovery Goal: The recovery goal for the Missouri River is 2,100 breeding pairs. Population must be stable, self-sustaining, and geographically well-distributed.

Current Status: Unlike the plovers, least terns are not counted on a regular basis, so the latest numbers on the entire population of birds is estimated at 7,800 adults. Currently, the only positive trends for least tern populations are on the lower Mississippi River.

The Consultation Process:

Section 7 of the Endangered Species Act (ESA) directs all Federal agencies to use their existing authorities to conserve threatened and endangered species. If a Federal agency (the action agency) determines that it's activities are likely to adversely affect a listed species, it must request initiation of formal consultation with the Fish and Wildlife Service. The Service then has 30 days to review and evaluate the action agency's biological assessment and advise the agency regarding the

sufficiency of the information provided.

Once the consultation package is complete, the formal consultation begins and the Service has 135 days to consult with the action agency and prepare a biological opinion.

The **biological opinion** is the document that states the opinion of the Service as to whether or not the Federal action is likely to jeopardize the continued existence of a listed species or damage habitat necessary for the survival of a listed species. If the Service determines that the action will jeopardize the continued existence of a listed species, or damage its habitat, the Service will, if possible, provide recommendations (known as **Reasonable and Prudent Alternatives**) that, if implemented, will reduce harm to the listed species.

Upon receipt of the biological opinion, the action agency then determines whether and how to proceed with its proposed action. If a jeopardy opinion contains reasonable and prudent alternative(s), the action agency may:
1) implement the reasonable and prudent alternatives and be in compliance with the Endangered Species Act (ESA);
2) elect not to implement the RPAs and be in violation of the ESA and become vulnerable to third-party lawsuits;
3) not undertake the project;
4) offer another alternative not previously considered that will meet the conservation goals for the species;
5) request an exemption from section 7(a)(2);

Regardless of what action the agency chooses, the agency must notify the Service of its final decision.

Endangered Species affected by Missouri River operations:

The endangered pallid sturgeon, endangered least tern, and threatened piping plover are the primary species covered by the consultation.

Background Consultation History:

The Corps and Service first consulted on Missouri River Mainstem Reservoir Project Operations in 1990, resulting in a biological opinion that determined project operations jeopardized the continued existence of the endangered least tern and threatened piping plover. The biological opinion contained a performance-based recommendation to meet minimum fledge ratios for the birds.

After the drought of the 1980s, the Corps committed to re-evaluating the Master Manual which had not been revised since the early 1960s. The Corps and Service consulted on a proposed revision to the Master Manual in December 1993 to address the effects of project operations on the newly listed pallid sturgeon and to re-evaluate the effects on least terns and piping plovers. At the Corps' request, in August 1994, the Service issued a draft biological opinion that determined that operation of the project as proposed was likely to jeopardize the continued existence of the least tern, piping plover, and pallid sturgeon.

The Corps reinitiated consultation on Mainstem Reservoir Operations in April 2000 because they had not yet consulted on impacts to pallid sturgeon and they had not been able to meet the fledge ratio targets of the performance-based RPA for terns and plovers from the 1990 biological opinion. That consultation resulted in the November 30, 2000 final biological opinion which again determined that operation of the Mainstem Reservoir System as well as operation and

maintenance of the Missouri River Bank Stabilization and Navigation Project, and operation of the Kansas River Reservoir System were likely to jeopardize the continued existence of the three listed species.

On July 5, 2002, the Corps informed the Service that due to low tributary inflows from the Platte River, they proposed to increase water releases from Gavins Point Dam to maintain minimum navigation service. This action would have washed away approximately 150 to 200 piping plover and least tern eggs and chicks. The Service coordinated with the Corps to evaluate the effects of this revised plan of operations. On July 19, the Service delivered a draft biological opinion to the Corps stating that the Corps should maintain flows until August 15 when most of the birds would be fledged and out of danger from rising water.

On December 20, 2002, the Corps requested initiation of formal consultation with the Service regarding the 2002-2003 Annual Operating Plan and re-initiation of formal consultation regarding the operation of the Missouri River Mainstem Reservoir System as described by the Corps' current Master Water Control Manual (Master Manual). Biological assessment for both projects were received by the Service on January 22, 2003. After reviewing both the AOP and Master Manual sets of documents, the Service determined it is not possible to complete two significant formal consultations concurrently within the next couple of months. The Service has requested the Corps' agreement to complete consultation on the 2002-2003 Annual Operating Plan before reinitiating formal consultation on the Master Manual.

To date, the recommended flows as set forth in the Service's biological opinions have not been implemented.